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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/018,884	04/17/2002	Yvette Lienart	USB 98 BC CNR PHY/cdm-kb	8604
466	7590	07/23/2004	EXAMINER	
YOUNG & THOMPSON 745 SOUTH 23RD STREET 2ND FLOOR ARLINGTON, VA 22202			MCINTOSH III, TRAVISS C	
			ART UNIT	PAPER NUMBER
			1623	

DATE MAILED: 07/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/018,884

Applicant(s)

LIENART ET AL.

Examiner

Traviss C McIntosh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 27-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 27-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

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DETAILED ACTION

The Amendment filed April 22, 2004 has been received, entered into the record, and carefully considered. The following information provided in the amendment affects the instant application by:

Claims 1-26 are canceled.

Claims 27-34 have been added.

Remarks drawn to rejections of Office Action mailed October 22, 2003 include:

112 2nd paragraph rejections: which have been overcome by applicant's amendments and have been withdrawn.

102/103 rejection: which has been maintained for reasons of record.

An action on the merits of claims 27-34 is contained herein below. The text of those sections of Title 35, US Code which are not included in this action can be found in a prior Office action.

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 22, 2004 has been entered.

Claim Objections

Claim 34 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form. Claim 34 depends from claim 33 which comprises the active step of applying to plants an oligo 1,4 β -D-mannuronan having a DP of 4. Claim 34 includes the statements "controlling the organization of cell walls...", which is not seen to further limit the claim from which it depends, because the only active step to be practiced in either method is applying to plants an oligo 1,4 β -D-mannuronan having a DP of 4. Thus, claim 34 is not seen to further limit claim 33.

Applicant is advised that should claim 28 be found allowable, claim 31 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k). It is noted that applicant's may have intended claim 31 to depend from claim 30, and not from claim 27.

Applicant is advised that should claim 29 be found allowable, claim 32 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k). It is noted that applicant's may have intended claim 32 to depend from claim 30, and not from claim 27.

Claim Rejections - 35 USC § 112

Claims 33 and 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 33 is an independent claim which reads, "the biofertilizing method", which is indefinite. The use of "the" in the preamble leads one to believe that the claim is to depend from another claim. The independent claim would more favorably be read as "a biofertilizing method...".

All claims which depend from an indefinite claim are also indefinite. *Ex parte Cordova*, 10 U.S.P.Q. 2d 1949, 1952 (P.T.O. Bd. App. 1989).

Claim Rejections - 35 USC § 102/103

Claims 27-34 are rejected under 35 U.S.C. 102(b) as anticipated by Adachi et al. (US Patent 5,588,254), art of record.

Claim 27 is drawn to a method of treating plants (a phytosanitary method) comprising applying to the plant a composition comprising a 1,3 β -D-glucanase amplifying effective amount of oligo 1,4 β -D-mannuronans. Claims 28 and 31 provide that the oligo 1,4 β -D-mannuronans have a DP of less than 30, and claims 29 and 32 provide the DP is between 2 and 15. Claim 30 is drawn to a method of treating plants (a biofertilizing method) comprising applying to the plant a 1,4- β -D-mannuronan. Claim 33 limits the DP of the 1,4- β -D-mannuronan to 4, and claim 34 does not limit claim 33, as set forth supra.

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Adachi et al. disclose alginic acid oligosaccharides which when hydrolyzed produce an oligosaccharide comprising 2-20 molecules of guluronic acid only (a DP of 2-20), 2-20 molecules of mannuronic acid only (a DP of 2-20), or 2-20 molecules total of the combination of guluronic acid and mannuronic acid (column 2, lines 33-45). The hydrolyzed oligosaccharides of Adachi et al. are taught to be effective as growth accelerators for plants (column 1, lines 8-15). Adachi et al. hydrolyze the alginic acid oligosaccharide in the same manner as applicants, using an enzyme such as alginic acid lyase, and disclose that oligosaccharides with a low DP are produced (having a DP of 2-20). Since the Office does not have the facilities for preparing the claimed materials and comparing them with prior art inventions, the burden is on Applicant to show a novel or unobvious difference between the claimed method using the claimed product and the product of the prior art. See *In re Best*, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977) and *In re Fitzgerald et al.*, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). If applicants show that the DP of the various methods is divergent based upon the various methods, the examiner would reject these claims as obvious over the '254 patent as it takes nothing more than routine skill in the art to determine which member of the range taught (oligosaccharides with a DP from 2-20) is optimally effective. Optimization of a known range to determine the most effective DP is standard practice in determining the most effective value of an art recognized range which is known to be effective. It is well established that merely selecting proportions of an art recognized range is not patentable absent a showing of criticality. See *In re Becket*, 33 USPQ 33 (CCPA 1937), and *In re Russell*, 439 F.2d 1228, 169 USPQ 426 (CCPA 1971).

Applicants argue that Adachi et al. fail to disclose the glucanase and endotransglycolase amplifying activities of the oligo 1,4 β -D-mannuronans, and thus the methods cannot be

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anticipated or obvious. However, the examiner would like to note that Adachi's methodological steps of administering their enzymatically decomposed alginic acids (i.e., oligosaccharides consisting of 2-20 molecules of mannuronic acid) to plants would have inherently performed the method as instantly claimed. It is noted that if Adachi et al., having taken the manipulative steps described therein, had attempted to measure for the results as described in the instant application, Adachi would have uncovered those results, as they are directly correlative to the method as practiced by Adachi.

Applicant's discovery of differing effects of a prior art method does not give the discoverer a right to exclude others from practicing the prior arts method of applying alginic acid decomposition products (i.e., oligo 1,4 β -D-mannuronans having a DP of 2-20) to plants, as the prior arts method would have inherently performed the method as instantly claimed. See Ex Parte Novitski, 26 USPQ 2d (BNA) 1389.

Claims 27-34 are rejected under 35 U.S.C. 102(b) or 103(a) as being anticipated by or obvious over Kaisha (JP 4335839), art of record.

Kaisha disclose a method of culturing a plant tissue or cell comprising adding an alginic acid oligosaccharide which comprises oligosaccharides with a degree of polymerization of 2-20 and containing guluronic acid and/or mannuronic acid to a culture medium (abstract) which improves production efficiency of artificial seeds or seedlings of farm gardening crops.

Applicants argue that Kaisha fail to disclose applying a glucanase amplifying amount of the oligo 1,4 β -D-mannuronans, and thus the methods cannot be anticipated or obvious.

However, the examiner would like to note that Kaisha's methodological steps of administering

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oligosaccharides to plants would have inherently performed the method as instantly claimed. It is noted that if Kaisha et al., having taken the manipulative steps described therein, had attempted to measure for the results as described in the instant application, Kaisha would have uncovered those results, as they are directly correlative to the method as practiced by Kaisha.

Applicant's discovery of differing effects of a prior art method does not give the discoverer a right to exclude others from practicing the prior arts method of applying alginic acid decomposition products (i.e., oligo 1,4 β -D-mannuronans having a DP of 2-20) to plants, as the prior arts method would have inherently performed the method as instantly claimed. See Ex Parte Novitski, 26 USPQ 2d (BNA) 1389.

The disclosures of the above-identified references are seen to anticipate the claims, as set forth supra, of the instant application.

Conclusion

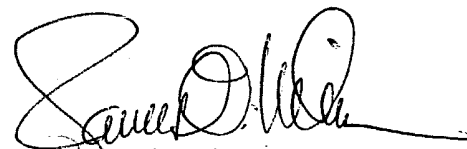
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Traviss C McIntosh whose telephone number is 571-272-0657. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O. Wilson can be reached on 571-272-0661. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Traviss C. McIntosh III
July 20, 2004



James O. Wilson
Supervisory Patent Examiner
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